



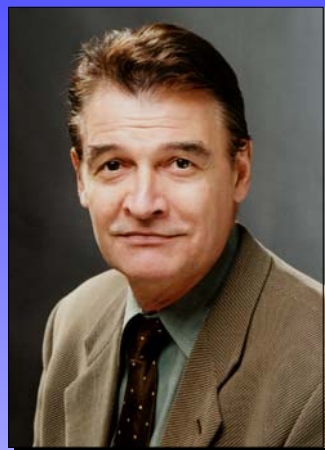
Distinguished Lecture Series



Virgil Percec

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Designing Biological Functions in Complex Supramolecular Materials

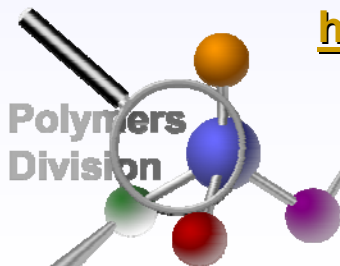


Our laboratory is involved in the use of biological systems as models for the elaboration of new concepts at the interface between macromolecular, supramolecular and biological sciences. These concepts are subsequently used in the design of functional complex soft materials by following the biological principles: structure determines functions (*Science* 1997, 278, 449-452; *Nature* 1998, 391, 161-164; *Nature* 2002, 419, 384-387; *Science* 2003, 299, 1208-1211; *Nature* 2004, 428, 157-160; *Nature* 2004, 430, 764-768; *PNAS* 2006, 103, 2518-2523). This lecture will discuss the elaboration of helical porous supramolecular and macromolecular structures as mimics of helical porous transmembrane proteins and their use in the reconstruction of the cell membrane and of its fundamental transport functions. Additional biological systems will be used to assemble complex matter that acts as molecular machines and provides high charge carrier mobility. The design of complex soft matter that displays the most primitive sign of intelligence such as memory effects will also be discussed.



**Thursday, March 22, 2007
11 AM, Building 224, Room B-245**

**<http://polymers.nist.gov/distinguished>
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